"From Philip II to Alexander the Great. Metrological Reforms by the Delphic Amphictyony (336–335 BCE)"

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ABSTRACT

At the end of the Classical period, when the Macedonians had great influence over mainland Greece, the Delphic Amphictyony successively implemented two fundamental monetary reforms. The first reform, between Spring 336 BCE and Spring 335 BCE, created a full-weight Aeginetic coinage, with the Amphictyonic name and types. This “new amphictyonic” was intended to replace the reduced coins (5.80g per drachma) used in the Peloponnese and Central Greece. The second reform, in Spring 335 BCE, accepted the reduced weight of the existing Aeginetic coins by applying a revaluation of the exchange rate between the Attic drachma (4.35g) and the reduced Aeginetic drachma (5.80g), from 10 to 7 to 10 to 7.5 (ἐπικαταλλαγή). This reform also modified the Attic and Aeginetic bronze–silver ratio (from 105:1 to 112.5:1), and impacted the weight standards (mina weighing 112 drachmae) as well as the Hellenistic monetary standards (light silver drachma worth one bronze mina).

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From Philip II to Alexander the Great
Metrological Reforms by the Delphic Amphictyony (336–335 BCE)

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CHS Fellow in Hellenic Studies (Fall 2015)
1. Coins in Delphi (4th c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἐπικαταλλαγή (Spring 335 BCE)
Weight and Coin Equivalences during the Classical Period

Aeginetic Stater (AE)
1305g = 3 minae

Aeginetic Stater (AR)
12.40g = 1/35th mina

RATIO 105:1

Attic Stater (AE)
870g = 2 minae

Attic Stater (AR)
8.70g = 1/50th mina

RATIO 100:1

Attic hemistater (AE)
435g = 1 mina

Attic hemistater (AR)
4.35g = 1/100th mina

RATIO 100:1
Converting Small Amounts in Delphi, 4th c. BCE

Κλεογένης ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, ὀβολοὶ τέσσαρες.
Πείσιος ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, ὀβολοὶ τέσσαρες.
Κτήσων ἀττικοῦ δραχμὰς τέσσαρας, τούτου αἰγιναῖον δραχμαὶ δύο, ὀβολοὶ τέσσαρες.

CID II 4, 1, 57–66 (360 BCE)

Attic: 4 dr. = Aeginetic: 2 dr. 4 ob.
Attic: 24 obols = Aeginetic: 16 obols
Attic: 3 obols = Aeginetic: 2 obols

Conversion rate = 3:2
Converting Large Amounts in Delphi, 4th c. BCE

Δημαίνετος Νάξιος ἀττικὰς δραχμὰς δέκα· τούτου αἰγιναῖον δραχμαὶ ἑπτά.

Attic: 10 dr. = Aeginetic: 7 dr.
Conversion rate = 10:7

CID II 4, I, 21–23 (360 BCE)
Conversion Rules between Attic and Aeginetic Systems

1 Attic drachma (4.35g) ↔ 1 Aeginetic drachma (6.20g)
1 Attic obol (0.72g) ↔ 1 Aeginetic obol (1.03g)

100:70 10:7 10×105:7×100
1. Coins in Delphi (4th c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἐπικαταλλαγή (Spring 335 BCE)
Philippe II de Macédoine

Third Sacred War (356–346 BCE)
“Old Aeginetic” Coins (παλαιὸν αἰγιναῖον)

Aegina, stater, [— — —] g

Phocis, triobol (c. 2.69g)

Opus, triobol (c. 2.65g)

Larisa, “old” drachma (c. 5.73g)

Sicyon, “new” drachma (c. 5.51g)

Larisa, “new” drachma (c. 5.82g)
“New Amphictyonic” Coins (καινὸν ἀμφικτυονικόν)

- Delphic Amphictyony, stater: 12.40 g
- Delphic Amphictyony, drachma: 6.20 g
- Delphic Amphictyony, triobol: 3.10 g
Cost Estimate of the New Amphictyonic Coinage (CID II 75)
Global Procedure for Producing the New Amphictyonic Coinage

Sorting and counting old coins: **100%** (122.44T)

- Weighing old coins and calculating deficit (*apousia*): **‒10.36%** (12.68T)
  - Melting loss: **‒1.50%** (1.83T)

Global *Apousia* **‒13.71%

New Amphictyonic Coins: **86.29%** (105.65T)

Minter’s wages: **‒1.85%** (2.25T)

New Amphictyonic coinage: **88.13%** (107.90T)
Ἐλείπετο τοῖς ταμίαις πιστεύεται τὴν πόλιν Δελφῶν,
[ν σύμπαν κεφάλαιον] σύν τῷ καινῷ καὶ τῷ παλαιῷ.
[ν τάλαντα ἐξήκοντα ἐν, μναί ἑκοστοί τέσσαρες,

vacat

Τούτων καὶ καινῶν ἀμφικτυονικῶν ἀρίθμου τάλαντα τριακονταμερίων,
[ν ἀκοντα ἐξ, μναὶ τριάκοντα ὀκτώ, στατῆρες τριακόντα
[ν δύο, ὀβολοὶ ἑννέα].

vacat

Καὶ παλαιοῦ τάλαντα εἴκοσι τέσσαρα, μναὶ
[ν τε[ς] σαράκοντα πέντε, τατηρεῖς εἴκοσι δύο,
[ν ὀβολοὶ] δύο, χαλκοῖ ἑπτά.

 vacat

Ταῦτα μὲν τὰ ὑπάρχοντα.
Ἐλείφθη, ἀφαιρεθέντος τοῦ ἄναλώματος, 
η παρὰ τῇ πόλει τῶν Δελφῶν· παλαιοῦ τάλαντα
η πεντήκοντα ἄχυρο, μυνὰὶ πεντήκοντα, [σ]τατήρες εἴκοσι ἐξ,
η δραχμῆ, χαλκοῖ ἐπτά.

Καὶ ἀμφικτυονικοῦ τάλαντα ἑκατὸν πέντε,
η μυνὰὶ τεσσαράκοντα ἑκατὸν πέντε,
η ὀβολοὶ ἑκατὸν πέντε.

Ἀπὸ τούτων ἔγενε, ἐκ τάλαντων ἀμφικτυονικοῦ
η ἀριθμῶι τεσσαράκοντα ἐκατὸν πέντε,
καὶ στατήρων δύο, ὀβολοὶ τρεῖς,
χαλκοῖ ἑπτά.

Σύμπαν κεφάλαιον· ἔλειφθη παρὰ τῇ πόλει τῶν Δελφῶν,
η τοῖς ταμίαις· η τάλαντα ἑκατὸν πεντήκοντα ἑκατὸν πέντε,
η μυνὰὶ τεσσαράκοντα, στατήρες δύο, ὀβολοὶ τρεῖς,
χαλκοῖ ἐπτά.

CID II 76, 1, 1–11 (end of Spring 335 BCE)
1 – Political Causes

Battle of Chaeronea (Summer 338 BCE) – Appointment of the Treasurers (Spring 337 BCE) – Assassination of Philip II (Summer 336 BCE) – Beginning of the Amphictyonic Coinage (Fall 336 BCE) – Increasing Power of Alexander – End of the Amphictyonic Coinage (Spring 335 BCE)
Oriental Campaigns of Alexander the Great (334–323 BCE)
Coinage of Alexander the Great
Failure of the New Amphictyonic Coinage

1 – Political Causes

Battle of Chaeronea (Summer 338 BCE) – Appointment of the Treasurers (Spring 337 BCE) – Assassination of Philip II (Summer 336 BCE) – Beginning of the Amphictyonic Coinage (Fall 336 BCE) – Increasing Power of Alexander – End of the Amphictyonic Coinage (Spring 335 BCE)

2 – Economic Causes

a) Cost of the operation (loss of 13.71%)

b) Unsuitability of the new Amphictyonic coinage with weight and monetary standards of the 2nd half of the 4th c. BCE
Bronze *Stater* (1305g)

Silver *Stater* (12.40g)

6th c. – early 4th c. BCE

Ratio 105:1
Bronze *Stater* (1305g)

6th c. – early 4th c. BCE
Ratio 105:1

Silver *Stater* (12.40g)

mid 4th c. BCE
Ratio 112:1

Silver *Stater* (c. 11.80g)
6th c. – early 4th c. BCE
Ratio 105:1

Silver *Stater* (12.40g)

Bronze *Stater* (1305g)

Ratio 105:1

mid 4th c. BCE
Ratio 112:1

Silver *Stater* (c. 11.80g)

335 BCE
Ratio 105:1

Silver *Stater* (12.40g)
1. Coins in Delphi (4\textsuperscript{th} c. BCE)

2. The “New Amphictyonic” Coinage (Fall 336 – Spring 335 BCE)

3. The ἐπικαταλλαγή (Spring 335 BCE)
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard

a) *The actual bronze–silver ratio became the official ratio (112.5:1)*

b) *The bronze counterpart of a silver coin remained the same*

c) *The silver coins were reduced (drachma weighing 1/75th of mina)*
6th c. – early 4th c. BCE
Ratio 105:1

Silver Stater (12.40g)

mid 4th c. BCE
Ratio 112.5:1

Silver Stater (c. 11.80g)

335 BCE
Ratio 105:1

Bronze Stater (1305g)

Silver Stater (12.40g)
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) *The actual bronze–silver ratio became the official ratio (112.5:1)*
   b) *The bronze counterpart of a silver coin remained the same*
   c) *The silver coins were reduced (drachma weighing 1/75th of mina)*

2 – Foreign Exchange Revaluation
   a) *Between Aeginetic and Attic drachmae (from 14:20 to 15:20)*
   b) *Between Aeginetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)*
The “Exchange Revaluation” (ἐπικαταλλαγή)

Aeginetic
7 × 12.40g (14 drachmae)

Attic
5 × 17.40g (20 drachmae)

8.70g
The “Exchange Revaluation” (ἐπικαταλλαγή)

Aegina

$7 \times 12.40g$ (14 drachmae)

$7.5 \times 11.60g$ (15 drachmae)

Attica

$5 \times 17.40g$ (20 drachmae)

$8.70g$
Converting Coins in Delphi after 335 BCE

[toύτου] χρυσοὶ δι- 
ακόσιοι εἶκοσι εἶς· τούτων [οὶ μὲν ἐκατὸ]ν ἐνενήκο-
[ντα ἐν ἑπτὰ στατήρσι λε[λογισμένοι ἃσα]ν, οἱ δὲ τρι-
[άκοντα] καὶ εἰς ἑπτὰ κ[αὶ δραχμῆ] τὸν ἀργυρίον] μνα[ὶ τεττα[ράκοντα τέτταρ]ες, στατη-
[ρες εἴκοσι δύο, δραχμῆ] ἡ.

CID II 102, I A, 37–42 (Fall 324 BCE)

Δ[αρ]εικὸι ἑκατὸν ἐνενήκοντα ἐν ἑπτὰ στατῆρσι]
[ἡριθμημένοι.
[ἄλ]λοι δαρεικοὶ τριάκοντα ἐν ἑπτὰ καὶ δραχμῆι]
[ἡριθμημένοι.
[καὶ ὁ δαρεικὸς ἐν ἑπτὰ 
[δραχμῆ] v ἀριθμεῖται δὲ ὁ δαρεικὸς ἐν ἑπτὰ]
[καὶ δραχμῆ]. τὸ δὲ ἄλλο πᾶν καλὸν.

CID II 102, II A, 6–12 (Fall 324 BCE)

221 gold staters:
– 190 staters rated at 7 silver staters
– 31 staters rated at 7.5 silver staters

Total: 1562.5 silver staters
(44 minae 22.5 staters)
New Conversion Rules between Attic and Aeginetic Systems

1 silver mina (435g)

1 gold stater (8.70g)

100 Attic drachmae (435g)
20 Attic drachmae (87g)
1 Attic drachma (4.35g)

1:100

1:5

1:20

1:15

1:14

1:75

1:70

75:70 Aeginetic drachmae (435g)
15:14 Aeginetic drachmae (87g)
1 Aeginetic drachma (6.20g) 5.80g
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginaetic standard
   a) The actual bronze–silver ratio became the official ratio (112.5:1)
   b) The bronze counterpart of a silver coin remained the same
   c) The silver coins were reduced (drachma weighing 1/75th of mina)

2 – Foreign Exchange Revaluation
   a) Between Aeginaetic and Attic drachmae (from 14:20 to 15:20)
   b) Between Aeginaetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)

3 – Modification of the Attic Weight System
   Mina weighing 112 Attic drachmae = 84 reduced Aeginaetic drachmae
<table>
<thead>
<tr>
<th>Coin Type</th>
<th>Weight (g)</th>
<th>Coin Equivalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeginetic Stater</td>
<td>1305</td>
<td>3 minae</td>
</tr>
<tr>
<td>(AE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aeginetic Stater</td>
<td>12.40</td>
<td>1/35 mina</td>
</tr>
<tr>
<td>(AR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic hemistater</td>
<td>435</td>
<td>1 mina</td>
</tr>
<tr>
<td>(AE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic hemistater</td>
<td>4.35</td>
<td>1/100 mina</td>
</tr>
<tr>
<td>(AR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic Stater</td>
<td>870</td>
<td>2 minae</td>
</tr>
<tr>
<td>(AE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attic Stater</td>
<td>8.70</td>
<td>1/50 mina</td>
</tr>
<tr>
<td>(AR)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RATIO 105:1

RATIO 100:1

DIDRACHM

DRACHM
A New Weight System Based on the Ratio 112(.5):1

1 stater: 224 Attic dr.

½ stater: c. 75 Attic dr.

¼ stater: 56 Attic dr.

1 mina: 112 Attic dr.

½ stater: c. 37.5 Attic dr.

⅛ stater: 28 Attic dr.

MINA = 112 ATTIC DRACHMAE = 84 (REDUCED) AEGINETIC DRACHMAE
A New Weight System Based on the Ratio $112(0.5):1$

1 mina: 112 Attic dr.

2 minae: 224 Attic dr.

$\frac{1}{2}$ mina: 56 Attic dr.

$\frac{1}{4}$ mina: 28 Attic dr.

$\frac{1}{8}$ mina: 14 Attic dr.

MINA = 112 ATTIC DRACHMAE = 84 (REDUCED) AEGINETIC DRACHMAE
The “Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) The actual bronze–silver ratio became the official ratio (112.5:1)
   b) The bronze counterpart of a silver coin remained the same
   c) The silver coins were reduced (drachma weighing $1/75^{th}$ of mina)

2 – Foreign Exchange Revaluation
   a) Between Aeginetic and Attic drachmae (from 14:20 to 15:20)
   b) Between Aeginetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)

3 – Modification of the Weight System (Mina = 112 Attic drachmae)

4 – Recalculation of the Number of Chalkoi per Attic Obol
New Conversion Rules between Attic and Aeginetic Systems

1 Attic obol (0.72g) = 1 Aeginetic obol (1.03g)
8 chalkoi (72g AE) = 12 chalkoi (108g AE)
9 1 bronze chalkous (9g)

Ratio AR–AE = 100:1
Ratio AR–AE = 112.5:1

100 × 105.78 × 100

12:9

3:2

4:3

1 Aeginetic drachmae (435g)
1 Attic drachmae (4.35g)
1 Attic obol (0.72g)
8 chalkoi (72g AE)
9 1 bronze chalkous (9g)

100 × 105.78 × 100

12:9

3:2

4:3

1 Aeginetic drachmae (435g)
1 Attic drachmae (4.35g)
1 Attic obol (0.72g)
8 chalkoi (72g AE)
9 1 bronze chalkous (9g)

Ratio AR–AE = 100:1
Ratio AR–AE = 112.5:1

15
100:75
100:70
10:7
4:3
“[…] when he receives an *apophora* from his slave, he requires the *epikatallagê* of the bronze, as also when he settles accounts with his steward <he requires the *epikatallagê* of the silver (?)>.”

Theophrastus, *Characters* XXX 15 (c. 319 BCE)
The “Foreign Exchange Revaluation” (ἐπικαταλλαγή)

1 – Modification of the Aeginetic standard
   a) The actual bronze–silver ratio became the official ratio (112.5:1)
   b) The bronze counterpart of a silver coin remained the same
   c) The silver coins were reduced (drachma weighing 1/75th of mina)

2 – Foreign Exchange Revaluation
   a) Between Aeginetic and Attic drachmae (from 14:20 to 15:20)
   b) Between Aeginetic silver drachmae and (Attic) gold stater (from 14:1 to 15:1)

3 – Modification of the Weight System (Mina = 112 Attic drachmae)

4 – Recalculation of the Number of Chalkoi per Attic Obol

5 – Creation of a Reduced Attic Drachma
“Silver” and “Bronze” Attic Drachmae in Greece and Aegean Sea

“Silver” Standard (ἀργύριον)

“Silver” Attic drachma (4.35g) <-> New AE–AR Ratio (112.5:1) <-> AE Counterpart (490g)

9:8

Original AE–AR Ratio (100:1)

“Bronze” Attic drachma (3.90g) <-> New AE–AR Ratio (112.5:1) <-> AE Counterpart (435g)

9:8

“Bronze” Standard (χαλκός)
ταῦτα ἐστήσαμεν ἐν τῶι ζυγῶι τῶι ἐλάττονι τῶι ἐν ἀγορανοὶ μίωι πρὸς ἀργύριον ὁλοσχε[ρέ]ς, δόκιμον, ἀττικὸν ὁλοσχερές, καὶ ἥλκυσεν σὺν τοῖς πυθμέσι καὶ τοῖς ὡσὶν τοῖς ἀποπεπτωκόσιν δραχμὰς ἩΗΗΗΔΔΓΗΗΗΗΓ

L. MIGEOTTE, Emprunt 50, 21–23 (c. 325–275 BCE)

ταῦτα ἐστήσαμεν ἐν τῷ χυμῷ τῷ ἐλάττονι τῷ ἐν ἄγορανοὶ μίωι πρὸς ἀργύριον ἀτ<τ>ικὸν ὁλοσχερές, καὶ ἥλκυσεν σὺν τοῖς πυθμέσι καὶ τοῖς ὡσὶν τοῖς ἀποπεπτωκόσιν δραχμάς ΨΗΗΗΔΔΓΗΗΗΗΓ

IG XI 2, 287, 142–143 (c. 250 BCE)
“Silver” and “Bronze” Attic Drachmae in Greece and Aegean Sea

“Silver” Standard (ἀργύριον)

“Silver” Attic drachma (4.35g)

from 9:8 to 4:3

“Bronze” Attic drachma (from 3.90g to 2.90g)

New AE–AR Ratio (from 112.5:1 to 150:1)

Original AE–AR Ratio (100:1)

New AE–AR Ratio (from 112.5:1 to 150:1)

AE Counterpart (from 490g to 652g)

from 9:8 to 4:3

AE Counterpart (435g)

“Bronze” Standard (χαλκός)
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